

MIS

(Management Information System)

(21-972)

Department of Industrial Engineering
Sharif University of Technology

Session #10

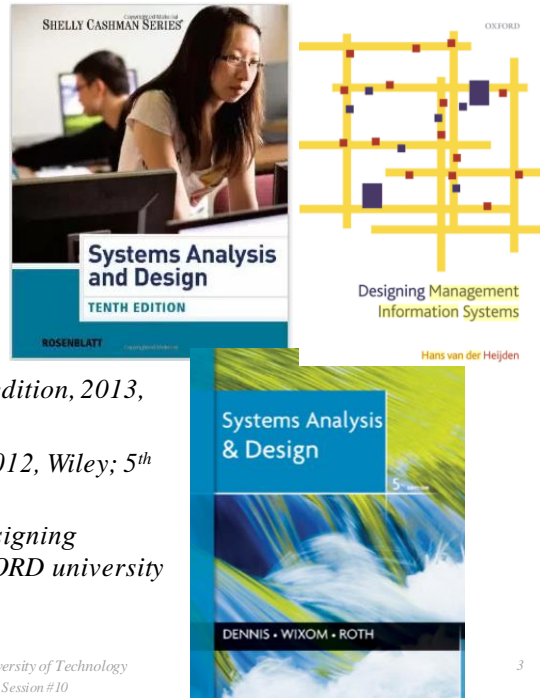


Course Description

- *Instructor*
 - *Omid Fatahi Valilai, Ph.D. Industrial Engineering Department, Sharif University of Technology*
 - *Email: Fvalilai@sharif.edu, Tel: 021-6616-5706*
 - *Website: <http://sharif.edu/~fvalilai>*
- *Class time*
 - *Saturday-Monday* *10:30~12:00*
- *Course evaluation*
 - *Mid-term* *(20%)*
 - *Final exam* *(20%)*
 - *Quiz* *(10%)*
 - *Exercise-Projects* *(30%)*

Course Description (Continued ...)

- **Mid-term session:**
 - Saturday, 7th, Azar 1394
- **Final session:**
 - Monday, 28th, Dey 1394
- **Reference:**
 - Rosenbalt, “System Analysis and Design”, 10th edition, 2013, Course Technology
 - Dennis, Lan; “Systems Analysis and Design”, 2012, Wiley; 5th edition
 - Johannes Govardus Maria van der Heijde; “Designing Management Information Systems”, 2009, OXFORD university press

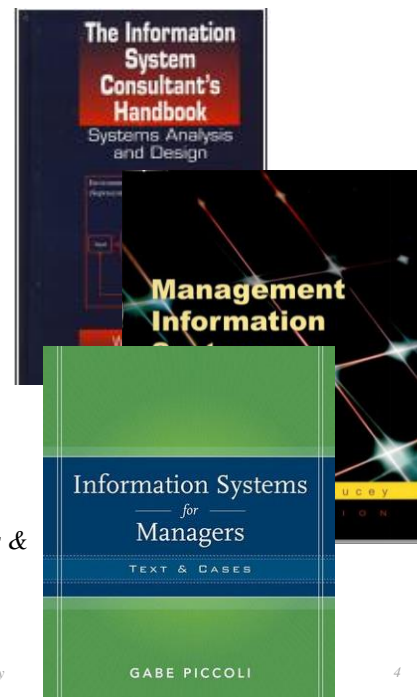


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Course Description (Continued ...)

- **Reference:**
 - William S. Davis, David C. Yen, “The information system consultant’s handbook: system analysis and design”, 2010, Taylor and Francis
 - Terence Lucey; “Management Information Systems”, 2004, Cengage Learning EMEA
 - Gabriele Piccoli; “Information systems for managers: texts & cases”, 2007, John Wiley & Sons Inc



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Course Description (Continued..)

- *Contents:*
 - *Introduction to Systems Analysis and Design*
 - *Analyzing the Business Case*
 - *Managing Systems Projects*
 - *Requirements Modeling*
 - *Data and Process Modeling*
 - *Object Modeling*
 - *Development Strategies*
 - *User Interface Design*
 - *Data Design*
 - *System Architecture*
 - *Managing Systems Implementation*

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Course Description (Continued..)

- *Contents:*
 - *Requirements Modeling*
 - *Joint Application Development*
 - *Rapid Application Development*
 - *Agile Methods*
 - *Modeling Tools and Techniques*
 - *System Requirements Checklist*
 - *Fact-Finding*
 - *Interviews*
 - *Documentation*

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Requirements Modeling

- *System Requirements Checklist*
 - *During requirements modeling, systems developers must identify and describe all system requirements.*
 - *A system requirement is a characteristic or feature that must be included in an information system to satisfy business requirements and be acceptable to users.*
 - *System requirements serve as benchmarks to measure the overall acceptability of the finished system.*
 - *System requirements fall into five general categories:*
 - *Outputs, inputs, processes, performance, and controls.*

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Requirements Modeling

- *System Requirements Checklist*
 - *Output Examples*
 - *The Web site must report online volume statistics every four hours, and hourly during peak periods.*
 - *The inventory system must produce a daily report showing the part number, description, quantity on hand, quantity allocated, quantity available, and unit cost of all sorted by part number.*
 - *The contact management system must generate a daily reminder list for all sales reps.*
 - *The purchasing system must provide suppliers with up-to-date specifications.*

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Requirements Modeling

▪ System Requirements Checklist

▪ Input Examples

- *Manufacturing employees must swipe their ID cards into online data collection terminals that record labor costs and calculate production efficiency.*
- *The department head must enter overtime hours on a separate screen.*
- *Student grades must be entered on machine scannable forms prepared by the instructor.*
- *Each input form must include date, time, product code, customer number, and quantity.*
- *Data entry screens must be uniform, except for background color, which can be changed by the user.*

Requirements Modeling

▪ System Requirements Checklist

▪ Process Examples

- *The student records system must calculate the GPA at the end of each semester.*
- *As the final step in year-end processing, the payroll system must update employee salaries, bonuses, and benefits and produce tax data.*
- *The warehouse distribution system must analyze daily orders and create a routing pattern for delivery trucks that maximizes efficiency and reduces unnecessary mileage.*
- *The human resources system must interface properly with the existing payroll system.*

Requirements Modeling

- *System Requirements Checklist*
 - *Performance Examples*
 - *The system must support 25 users online simultaneously.*
 - *Response time must not exceed four seconds.*
 - *The system must be operational seven days a week, 365 days a year.*
 - *The accounts receivable system must prepare customer statements by the third business day of the following month.*
 - *The student records system must produce class lists within five hours after the end of registration.*
 - *The online inventory control system must flag all low-stock items within one hour after the quantity falls below a predetermined minimum.*

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Requirements Modeling

- *System Requirements Checklist*
 - *Future growth, costs and benefits*
 - *In addition to the system requirements, systems analysts must consider scalability, which determines how a system will handle future growth and demands, and the total cost of ownership, which includes all future operational and support costs.*
 - *Scalability refers to a system's ability to handle increased business volume and transactions in the future.*
 - *To evaluate scalability, you need information about projected future volume for all outputs, inputs, and processes.*

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